

R8/17SE-B(+) -
R120/11SE-B(+)

GB ***Assembly and Operating Instructions***
Tubular drives for sunshades

Important information for:

- *Fitters*
- *Electricians*
- *Users*

Please forward accordingly!

These instructions must be kept for future reference.



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Assembly and Operating Instructions

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General

The sun protection drives R8/17SE-B(+) - R120/11SE-B(+) are high-quality products with numerous performance features:

- **Optimised for sun protection applications with cloth tensioning**
(for use in roller shutter types R8/17R - R40/17R and R8/17R+ - R20/17R+)
- **Suitable for awnings, box awnings, drop arm awnings and winter garden shades**
- **No settings at the drive**
- **No external limit switches**
- **Adjustment of cloth shifting (temperature, weathering, moisture)**
- **Optimum adjustment of the tensile load to the mechanical requirements of the sun protection system**
- **Minimum tensile load on the cloth and seams**
- **Automatic recognition of the upper final position**
- **Simple setting of the extension range at the push of an installation set button**
- **Can be installed on the left or right**
- **Several drives can be connected in parallel**
- **Suitable for all Becker control units**
- **Compatible with existing motors (4-wire connection cable)**

Always refer to these assembly and operating instructions during installation and when setting the device.

Warranty

Structural modifications and incorrect installation which are not in accordance with these and our other instructions can result in serious injuries, e.g. crushing of limbs. Therefore, structural modifications should only be carried out with our prior approval and in accordance with our instructions, particularly the information contained in these Assembly and Operating Instructions.

Any further processing of the products which does not comply with their intended use is not permitted.

The end product manufacturer and fitter have to ensure that all the current statutory, official regulations and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product assembly, installation and customer advice.

Safety Information

The following safety instructions and warnings are intended to avert hazards and to prevent damage to property and personal injuries. **Please retain for future reference.**



Caution

Denotes a potentially hazardous situation. If this is not avoided, injuries may result.



Attention

Denotes a potentially hazardous situation. If this is not avoided, the product or something in its vicinity may be damaged.



Note

Denotes user tips and other useful information.



Important safety instructions for the user

Caution! Failure to observe these instructions can lead to serious injuries.

- All operational work including maintenance and cleaning, on electrical installations as well as other parts of the construction must always be performed by authorised specialists, especially by qualified electricians.
- Do not allow children to play with control units.
- Systems have to be regularly checked by authorised specialists for wear and damages.
- Always put damaged systems out of operation immediately until they are repaired by an authorised specialist.
- Do not operate equipment if people or objects are within the danger zone.
- Observe the danger zone of the equipment during operation.
- Bring the equipment to a stop and disconnect the mains power supply when maintenance and cleaning jobs are performed either on the system itself or in the immediate vicinity of it.
- Ensure that there is an adequate distance (at least 40 cm) between moving parts and adjacent objects.
- Crushing and shearing points must be avoided or protected.



Assembly and Operating Instructions



Important safety instructions for the installation and commissioning

Caution! Failure to observe these instructions can lead to serious injuries.

- Please comply with the safety instructions EN 60 335-2-97. Please note that these safety instructions cannot be assumed as being complete, since this standard does not consider all the possible causes of risk. For example, the construction of the operated product, the effectiveness of the drive in the location of installation or the mounting of the final product in the end user's place of usage cannot be taken into consideration by the drive manufacturer.

If any questions or concerns regarding the safety instructions contained in the standard arise, please contact the manufacturer of the respective part or end product.

- All operational work, including maintenance and cleaning, on electrical installations as well as other system parts must always be performed by authorised specialists, especially qualified electricians.
- During operation of electrical or electronic equipment and units, certain components are subject to a hazardous electrical voltage. Physical injuries or damage to property can result in the event of unqualified interventions or failure to comply with the warning notices.
- All applicable standards and regulations for the electrical installation must be complied with.
- Only use spare parts, tools and additional devices which are authorised by Becker.
- Unapproved third party products or modifications to the system and its accessories represent a risk to your safety and the safety of others. This means that the utilisation of unapproved third party products, or modifications which have not been agreed with or approved by us are prohibited. We shall not accept liability for damages arising from such actions.
- Before installation, shut down all lines and control devices that are not essential for operation.
- Position control devices within sight of the driven product at a height of over 1.5 m.
- Ensure that there is an adequate distance (at least 40 cm) between moving parts and adjacent objects.
- Nominal torque and duty cycle must be suitable for the requirements of the driven product.
- Technical data - nominal torque and service life are located on the type plate of the tubular drive.
- Moving parts of drives intended to be installed at a height of less than 2,5 m above floor level or other access level need to be protected
- Crushing or shearing points must be avoided or protected.
- Observe safety distances in accordance with DIN EN 294.
- When installing the drive, an all-pole separation capability from the mains with at least 3 mm contact opening width per pole must be provided (EN 60335).
- If the mains connection cable is damaged, it may only be replaced by the manufacturer.
- Drives with a H05VV-F connection cable are only to be used inside the building.
- Drives from Becker Antriebe are to be mounted and operated solely with mechanical accessory components shown in the current Becker product catalogue.

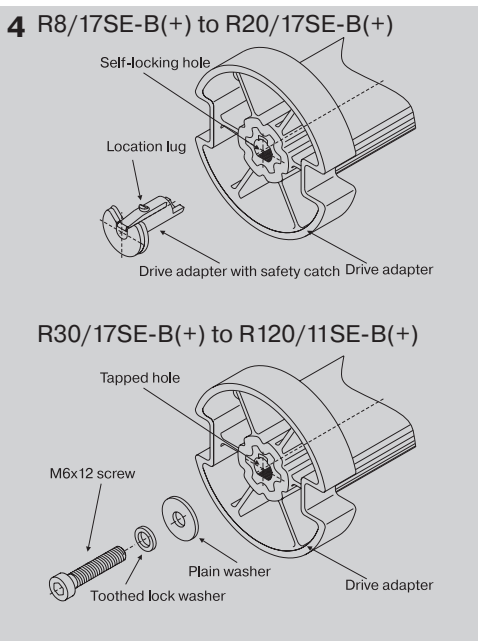
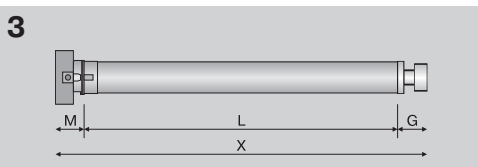
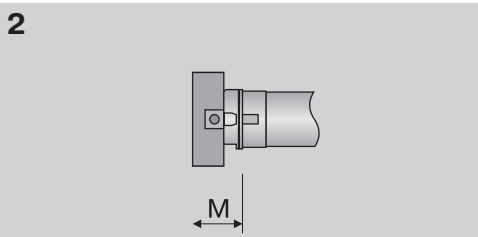
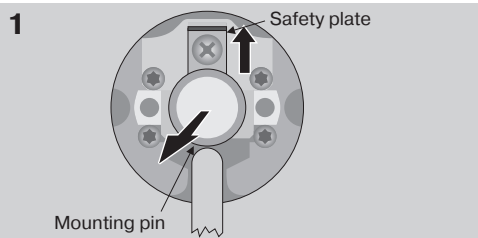
Intended use

The tubular drives R8/17SE-B(+) - R120/11SE-B(+) are only intended for operating awnings and winter garden shades. These tubular drives require a fixed buffer in the upper final position (retracted awning) to ensure correct functioning. Application in coupled systems is only possible if all the partial systems run synchronously and reach the upper final position at the same time.

Please use types RXX/XXR - RXX/XXR+ or PX/XXPR+ - RXX/XXPR+ for application in roller shutters.

Other applications, utilisation and modifications are not permitted in order to protect the safety of the users and others, since these actions can impair the system's safety, resulting in personal injuries and property damage. Becker-Antriebe shall not accept liability for damages arising from such actions. Always observe the information in these instructions when operating or repairing the system. Becker-Antriebe shall not accept liability for damages resulting from incorrect usage.

Mounting and installation instructions



Attention

Drives from Becker Antriebe are to be mounted and operated solely with mechanical accessory components shown in the current Becker product catalogue.

The assembler must check in advance that the resistance of the brickwork or sunshade system meets requirements (torque of the drive plus weight of the shutter curtain).



Caution

Electrical connections may only be carried out by a qualified electrician. Prior to assembly, the power supply should be disconnected. Please give the enclosed connection information to the electrical fitter carrying out the work.

Please consider the following during drive assembly:

1. Loosening the mounting pin
The mounting pin locks into place automatically when inserted. To loosen the mounting pin, push the safety plate upwards and extract the mounting pin (Fig. 1).
2. Establish the room required at the side for mounting (M) of the head piece, thrust bracket and motor bracket (Fig. 1), in order to calculate the required length of roller tube. The internal dimension of the roller shutter box or sunshade system (X) minus the overall length of wall bracket+head piece (M) and thrust bracket (T) gives the length (L) of the roller tube:
 $L = X - (T + M)$ (Fig. 3).

Measure the distance from the wall bracket and connecting head since this can vary according to the combination of motor and bracket.

- **Installation of the drive adapter with a safety catch for drives R8/17SE-B(+) to R20/17SE-B(+):**

The fitting direction of the safety catch is specified by its shape.

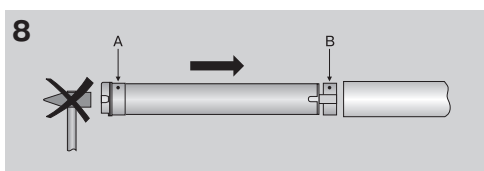
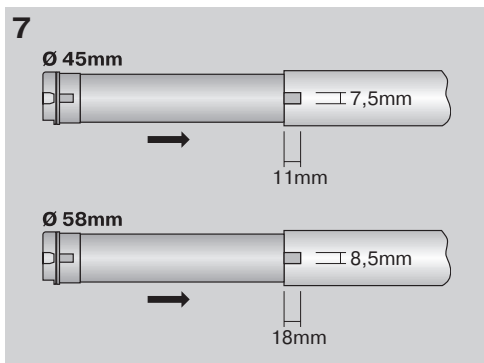
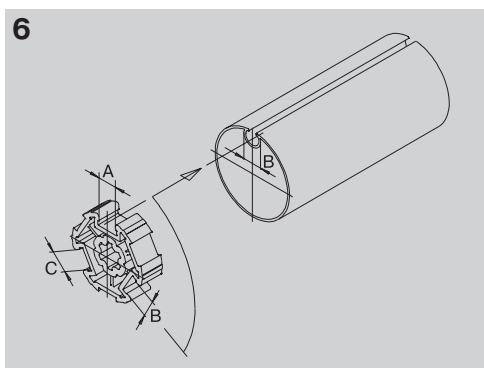
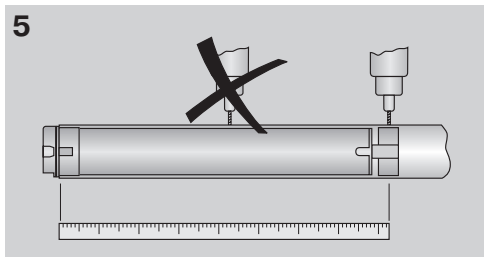
When inserting the safety catch, ensure that the location lug engages correctly (audible click). Try to extract the drive adapter in order to check whether the safety catch has locked into position correctly (Fig. 4).

- **Installation of the drive adapter with screw connection for drives R30/17SE-B(+) to R120/11SE-B(+):**

Connection is carried out using an M6x12 bolt. This is secured together with a plain M6 washer and a corresponding toothed lock washer (Fig. 4).



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4. Before fitting in the barrel, take the measurement from barrel end to the centre of the drive adapter and mark on the barrel (Fig. 5).

- **For profile tubes:**

For some drive adapters, tolerances of the channel widths in different roller tubes can be balanced by turning the drive adapter in a different channel slot. These channel slots come in different sizes and make it an exact fit possible when the drive is installed (Fig. 6).

- **For round tubes:**

Release the tube from the motor died in advance, so that the cam of the ring can also be inserted into the tube. The cam of the ring must not engage with the tube. For rings without pulling cams, the roller tube must be connected to the ring by a 4.8 x 10 mm sheet-metal screw (Fig. 7).

5. Assemble the tubular drive with the relevant ring (A) and drive adapter (B). Insert the tubular drive with the pre-assembled ring and drive adapter into the tube as shown. Ensure that the ring and drive adapter are correctly positioned in the tube (Fig. 8).

The drive adapter of the tubular drive is connected to the roller tube as follows:

Size of drive [mm]	Tubes-Ø [mm]	Torque max. [Nm]	Fastening screws for drivers (4 x)
Ø 45	60 - 70 mm plastic or diecast drive adapter	50	flat-headed sheet-metal screw ST 6.3 x 10 DIN 7982
Ø 58	63 - 120 mm diecast drive adapter	120	flat-headed sheet-metal screw ST 9.5 x 10 DIN 7982
Ø 58	85 - 133 mm aluminium drive adapter	120	flat-headed screws M8 x 16 DIN 7991



Attention

When drilling into the roller tube, never drill near the tubular drive!

The tubular drive must not be hit into the tube or dropped into the roller tube!

Becker also recommends that the counter bearing be joined to the roller tube.

6. Hang the tube in the bracket and secure the motorhead piece in the drive bracket.
7. Hang the mounted unit consisting of tube, tubular drive and thrust bracket in the bracket.

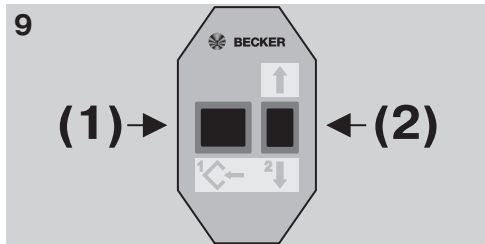
Positioning the end limits

Becker tubular drives with electronic limit switching are programmed using a corresponding installation set. The drive types R8/17SE-B(+) to R120/11SE-B(+) provide a cloth tensioning function.

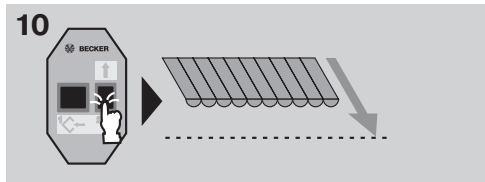


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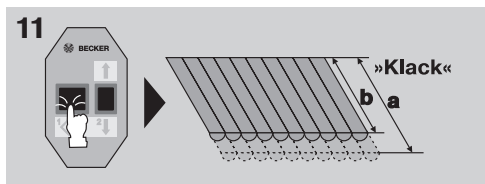
With a winding shaft diameter of 78 mm, the programmed extension range of the system (Fig. 11, dimension b) has to be at least 3.5 cm less than the maximum possible extension range of the system (Fig. 11, dimension a) to ensure correct cloth tensioning. During extension the curtain travels slightly beyond the programmed final position and is subsequently retracted to tension the cloth (Fig. 11).



- (1) = Programming / Reset button
(2) = Travel button



1. Press the travel button (2) on the installation set to move the sun protection system to the desired outer position (extension range). Subsequently release the travel button (2) to ensure the tubular drive is de-energised (Fig. 10).

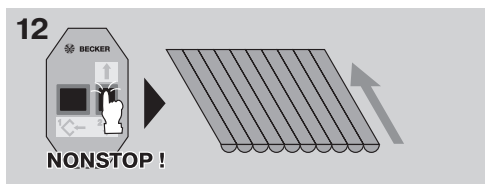


2. Now press the programming button (1) to save this position. The tubular drive makes a "clack" sound to confirm that the extension position has been saved. Release the programming button (1), the position has been saved (Fig. 11).



Note

If the drive makes a "clack-clack" sound, a previously saved position has been deleted. In this case, release the programming button (1) and press it again after approx. two seconds.



3. The sun protection system has to be subsequently retracted until the tubular drive switches off automatically (Fig. 12). To ensure that the final position is recognised correctly and the sun protection system is retracted completely, the tubular drive pulls the cloth with slightly increased force. During subsequent travel the electronic limit switching optimises the switch-off point and reduces the cloth strain to a minimum.

Installation has now been completed; the electronic limit switching has saved the final positions. To carry out a final check, travel the sun protection system to both final positions.



Note

Becker drives are designed for short-time operation (S2/KB 4 min).

The number of awning cycles which can occur is based on the winding shaft diameter and the awning extension length.

The runtime of the motor is reduced if it has not cooled down properly since last use.

The Becker installation set for drives with electronic limit switching is also required to disassemble the drive or to delete the internal memory. This enables you to reset the tubular drive to the delivery status, for example, in order to:

- Repeat installation
- Disassemble the drive
- Set a new final position
- Operate a defective drive in the emergency programme.



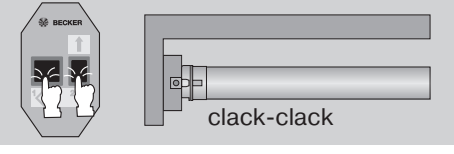
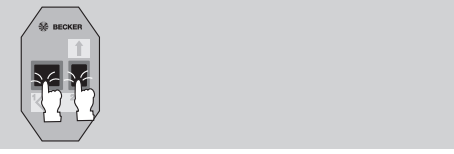
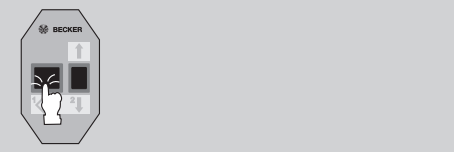
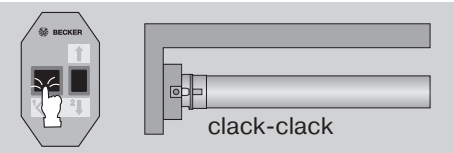
Deleting the end limits using the setting controls



Note

Please note that a protection lock is engaged after setting the positions to avoid unintended erasure of the positions.

Action	Reaction
a) Erase final positions during installation	
Press the reset button (1)	The tubular drive makes a “clack-clack” sound to confirm.
	The final position has been deleted.
b) Erase final positions after installation	
Move the canopy to a position between both final positions (2).	
1. Press the reset button (1).	
2. Additionally press and hold the downward button (2).	
3. Now release the reset button (1), but keep the downward button (2) pressed.	
4. Additionally press the reset button (1) again.	The tubular drive makes a “clack-clack” sound to confirm.
	Both final positions have been deleted.



What to do if...?

Problem	Cause	Remedy
The tubular drive overruns the final position or does not reach the set final position	The final positions have been deleted (tubular drive makes a "clack-clack" sound when switched on) or have been reset (tubular drive makes a "clack" sound when switched on)	
	1. External devices are connected to the drive connection cables of the tubular drive	1. Check the electrical installation, remove the external devices, reset the final positions
	2. The L1 and N connection have been reversed for larger cable lengths	2. Swap L1 and N (N = blue, L1 = black/brown), reset the final positions
	3. Cloth ripped	3. Repair the system; delete and subsequently reset the final positions
The tubular drive stops arbitrarily, it cannot move further in the same direction	1. The tubular drive is overloaded	1. Use a stronger tubular drive
	2. Sun protection system is jammed, friction is too high	2. Make sure the sun protection system runs smoothly
	3. Installation of a previously installed tubular drive	3. Delete and reset the final positions
The tubular drive does not run in the specified direction	1. The tubular drive is overheated	1. The tubular drive is operational again after a few minutes
	2. The tubular drive is defective (does not work even after a extended idle period)	2. Replace the tubular drive; carry out RESET via the programming button. A "clack" sound is not audible (emergency programme). In order to disassemble it, the tubular drive can be moved up and down using the installation set
	3. An obstacle caused the tubular drive to switch off the last time it moved in the same direction	3. Move away from the obstacle, remove the obstacle and move (switch on) the drive in the desired direction
	4. Faulty electrical connection	4. Check the electrical connection
	5. Electrical connection short circuited due to moisture	5. Repair the electrical installation, reset the final positions
The tubular drive only runs for approx. 5 seconds	The tubular drive is in error mode	Reset the final positions or replace the tubular drive
Setting of the final positions via the installation set does not function correctly	1. Installation set defective	1. Replace the installation set
	2. Electrical connection incorrect	2. Check connection

Information for the Electrician

Becker tubular drives with electronic limit switching can be parallel connected. The maximum switching contact loading of the control device (timer, relay control, switch, etc.) must be observed.

Use external conductor L1 to control the up and down direction. Other devices or consumption units (lamps, relays, etc.) must not be directly connected to the drive connection cables. For this purpose, the drives and additional units must be decoupled by relay controls.

When installing the drive, an all-pole separation capability from the mains with at least 3mm contact opening width per pole must be provided (EN 60335).

Attention: Only use mechanically or electrically locked switching elements with a marked zero position! This also applies when drives with **electronic and mechanical** limit switching are used in the same system.

The changeover time for changing the running direction must be at least 0,5 s. Switch and control must not execute simultaneous UP and DOWN commands.

To operate drives with electronic limit switching, only use control elements (time controls) which do not draw N potential via the drive. The outputs of the control element must be potential-free in the neutral position.

Protect the electrical connections from damp.



Note

Becker tubular drives bear the CE mark. These drives comply with the valid EU guidelines and meet EMC regulations.

If the drive is to be operated with units which contain sources of interference, the electrician must ensure suitable interference suppression for the relevant devices.



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Assembly and Operating Instructions

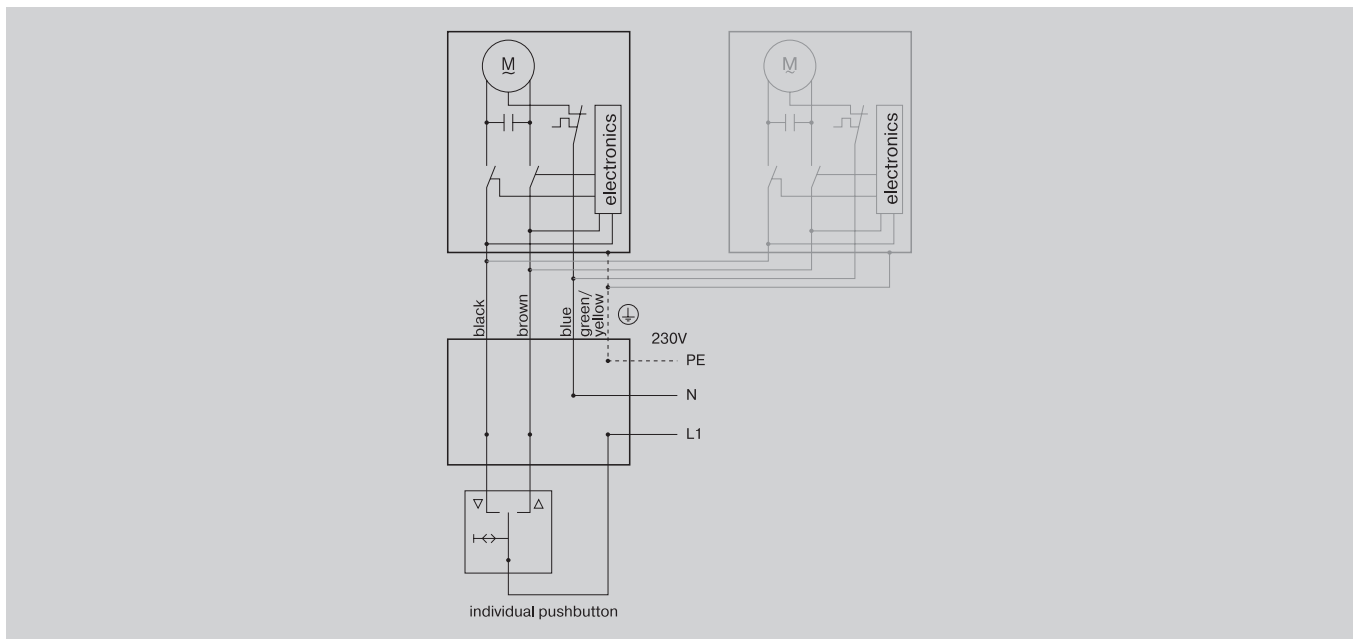
Technical Data

Type	R8/17 SE-B(+)	R12/17 SE-B(+)	R20/17 SE-B(+)	R30/17 SE-B(+)	R40/17 SE-B(+)	R50/11 SE-B(+)
Nominal torque (Nm)	8	12	20	30	37	50
Output speed (min ⁻¹)	17	17	17	17	17	11
Limit switch range	64 revolutions					
Mains voltage	230 V AC / 50 Hz					
Power consumption (W)	115	125	175	225	230	255
Nominal current consumption (A)	0.5	0.53	0.77	0.96	1.18	1.1
Operating mode	S2 4 min.					
Protection class	IP 44					
Min. tube diameter (mm)	47					

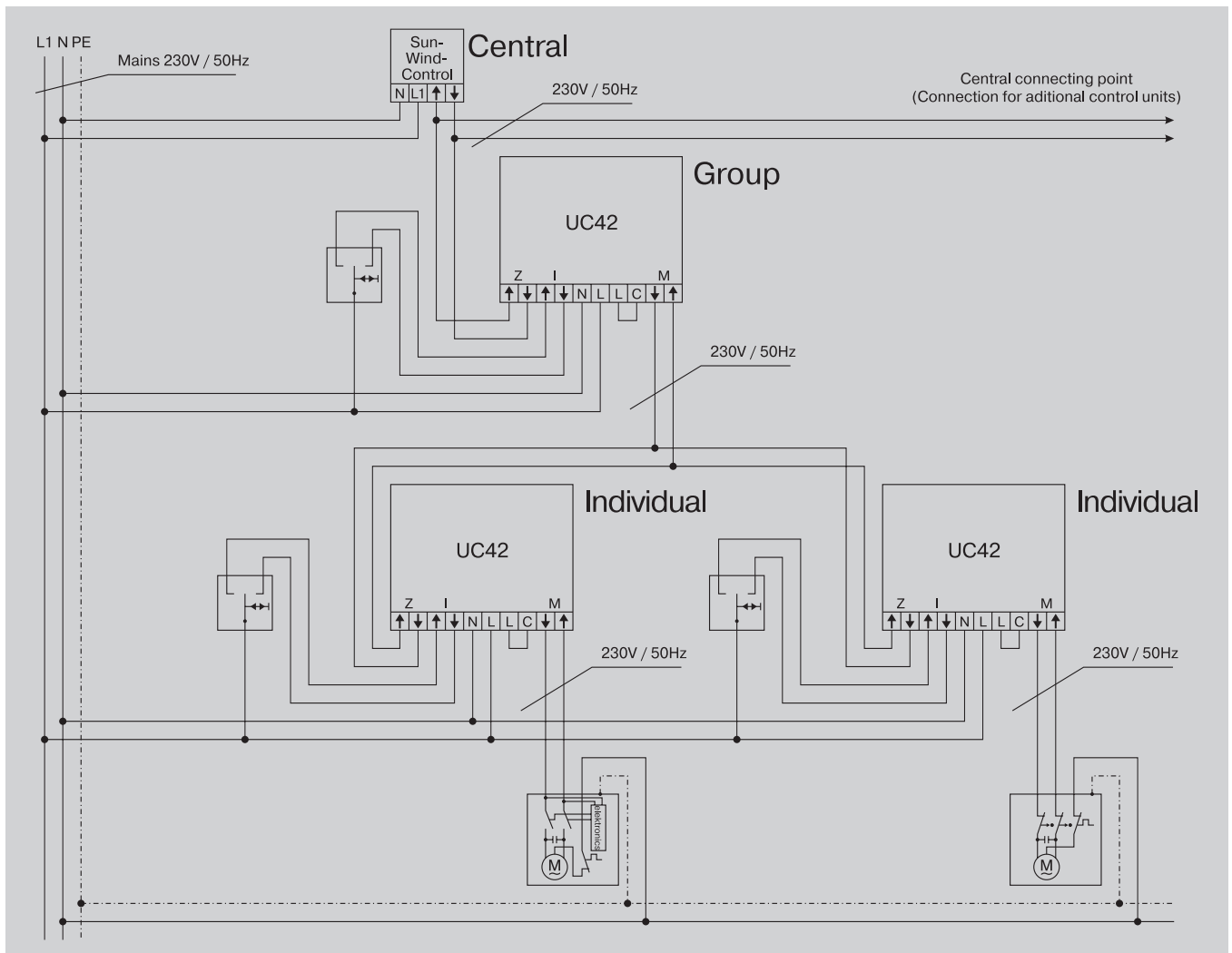
Type	R44/14 SE-B(+)	R50/17 SE-B(+)	R60/11 SE-B(+)	R70/17 SE-B(+)	R80/11 SE-B(+)	R120/11 SE-B(+)
Nominal torque (Nm)	44	50	60	70	80	120
Output speed (min ⁻¹)	14	17	11	17	11	11
Limit switch range	64 revolutions					
Mains voltage	230 V AC / 50 Hz					
Power consumption (W)	255	315	265	430	310	435
Nominal current consumption (A)	1.2	1.4	1.2	1.9	1.4	1.9
Operating mode	S2 4 min.					
Protection class	IP 44					
Min. tube diameter (mm)	60					

Sample wiring diagrams

Controlling one/several drive(s) via a single switch/button



Central, group and individual control using Centronic UnitControl UC42



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